

Corporate Medical Policy

Bone Marrow Transplant for Breast Cancer

File Name: bone_marrow_transplant_for_breast_cancer
Policy Number: SUR6090.7
Origination: 4/2001
Last Review: 3/2008

Active policy, no longer scheduled for routine literature review.

Description of Procedure or Service

This policy addresses high-dose chemotherapy with [hematopoietic stem-cell](#) support as a treatment of breast cancer. Bone marrow transplants typically include high-dose chemotherapy (HDC).

"High-dose chemotherapy" (HDC) involves the administration of [cytotoxic agents](#) for the treatment of cancer. It uses doses several times greater than the standard therapeutic dose. In some cases, whole body or localized radiotherapy is also given and is included in the term HDC. The rationale for HDC is that many [cytotoxic agents](#) act according to a [steep dose-response curve](#). Thus, small increments in dosage will result in relatively large increases in tumor cell kill. Increasing the dosage also increases the incidence and severity of adverse effects related primarily to bone marrow [ablation](#) (e.g., [opportunistic](#) infections, hemorrhage, organ failure).

Various techniques have been developed to counter the [myelosuppressive](#) effects, and secondary susceptibility to infections of HDC regimens. The main technique is the infusion into the patient of [hematopoietic stem cells](#) to repopulate the bone marrow. [Hematopoietic stem cells](#) are primitive cells capable of replication and formation into mature blood cells. [Stem cells](#) can be [harvested](#) from three sources:

1. Bone marrow cells: Bone marrow [stem cells](#) can be [harvested](#) from a related or unrelated donor.
2. Peripheral [stem cells](#): [Stem cells](#) may be [harvested](#) from the peripheral blood circulation. This may involve several pheresis procedures. Pheresis involves withdrawing blood from a donor in which a portion containing [stem cells](#) is separated and retained with the remainder retransfused back to the donor.
3. [Umbilical cord](#): Blood [harvested](#) from the [umbilical cord](#) and [placenta](#) shortly after the delivery of neonates contains [stem cells](#). Although cord blood is an [allogeneic](#) source, these [stem cells](#) are associated with a lower incidence of rejection or graft versus host disease.

When [harvested](#) from and infused back into the same patient, [stem cells](#) are referred to as [autologous](#). [Stem cells harvested](#) from a healthy, [histocompatible](#) donor and infused into a patient are referred to as [allogeneic](#).

Breast cancer is the most common [malignancy](#) among women and has a high fatality rate. In women, breast cancer is rare before the age of 30, and the incidence rises rapidly after menopause. Breast cancer is commonly categorized according to the stage of disease.

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Policy

BCBSNC will provide coverage for Bone Marrow Transplant for Breast Cancer when it is determined to be medically necessary because the medical criteria and guidelines shown below are met.

Some patients may be eligible for coverage under Clinical Trials. Refer to the policy on Clinical Trial Services for Life-Threatening Conditions.

Benefits Application

Please refer to certificate for availability of benefits. This policy relates only to the services or supplies described herein. Benefits may vary according to benefit design, therefore certificate language should be reviewed before applying the terms of the policy.

There may be certificates which exclude benefits for transplantation or for specific diagnoses.

Services for or related to the search for a donor are not covered.

When Bone Marrow Transplant for Breast Cancer is covered

Note: The clinical indications and discussion of Bone Marrow Transplant for Breast Cancer is complex and technical. If you have any questions concerning this treatment, please talk with your physician.

1. HDC and [autologous stem cell](#) support may be covered for members participating in a clinical trial, (see Clinical Trial Services for Life-Threatening Conditions policy).

When Bone Marrow Transplant for Breast Cancer is not covered

1. HDC and [stem cell](#) support is considered investigational in the treatment of breast cancer.
2. Tandem [autologous](#) transplantation (i.e., two courses of high dose chemotherapy) is considered investigational as a treatment of breast cancer.
3. HDC with [allogeneic](#) stem cell support is considered investigational as a treatment of breast cancer.

Policy Guidelines

Refer to the individual certificate for prior approval/precertification requirements.

A recent literature search found no new reports of clinical outcomes from trials directly comparing HDC with autologous stem cell support versus conventional dose therapy for patients with metastatic breast cancer. Several randomized trials reported outcomes in comparison of HDC with autologous stem cell support versus conventional doses for [adjuvant](#) therapy of high-risk non-metastatic breast cancer. The studies did not support conclusions that HDC with autologous stem cell support improved outcomes when compared to conventional adjuvant therapy. Data related to outcomes of multiple cycles (tandem transplants) in comparison to single transplant or conventional-dose regimens were unavailable.

There is inadequate data available to evaluate outcomes of HDC with allogeneic stem cell support for the treatment of breast cancer.

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Billing/Coding/Physician Documentation Information

This policy may apply to the following codes. Inclusion of a code in this section does not guarantee that it will be reimbursed. For further information on reimbursement guidelines, please see Administrative Policies on the Blue Cross Blue Shield of North Carolina web site at www.bcbsnc.com. They are listed in the Category Search on the Medical Policy search page.

Applicable codes: 38205, 38206, 38230, 38240, 38241, 38242, S2150

BCBSNC may request medical records for determination of medical necessity. When medical records are requested, letters of support and/or explanation are often useful, but are not sufficient documentation unless all specific information needed to make a medical necessity determination is included.

Policy Key Words

Key Words: High Dose Chemotherapy, HDC, Stem Cell Support, SCS, Autologous, Allogeneic, Breast Cancer, Bone Marrow Transplant, BMT, SUR6090.7

Medical Term Definitions

Ablation

the removal of tissue or an abnormal growth, usually by cutting; may also refer to a very high dose of treatment that is calculated to kill a tumor.

Allogeneic

genetically dissimilar - involves a donor and a recipient; genes are not identical in each organism.

Autologous

derived from the same organism, i.e., self donation.

Cytotoxic agents

drugs which possess a specific destructive action on certain cells; often used to refer to drugs used to fight cancer, such as chemotherapy.

Harvesting

to remove tissues or cells from a donor and preserve for transplantation.

Hematopoietic

pertaining to or effecting the formation of blood cells.

Histocompatible

tissue compatible; donor and recipient are well enough matched that a transplant will be easily accepted.

Malignancy

a cancer.

Metastatic

transfer of disease from one organ or part of the body to another not directly connected with it.

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Myelosuppressive

something that inhibits bone marrow activity, resulting in decreased production of blood cells and platelets.

Opportunistic

a microorganism that does not usually cause disease but that, under certain circumstances such as impaired immune system due to other diseases or drug treatment becomes pathogenic.

Placenta

Temporary organ formed from both fetal and maternal tissues that provides nutrients and oxygen to the developing fetus, carries away fetal metabolic wastes, and produces the hormones of pregnancy.

Steep dose-response curve

a theory in delivery of cytotoxic agents that small increments in dosage will result in relatively large increases in tumor cell kill.

Stem cells

immature generic blood cells that will mature into the various types of blood cells in the body.

Umbilical cord

a flexible structure through which the umbilical arteries and vein pass and which connects the fetus to the placenta.

Scientific Background and Reference Sources

- BCBSA TEC Evaluation, February 1999; Tab 24
- BCBSA Medical Policy Reference Manual, 12/1/1999; 8.01.27
- Specialty Matched Consultant Advisory Panel - 11/2002
- BCBSA Medical Policy Reference Manual [Electronic]. 8.01.27, 12/18/2002
- Specialty Matched Consultant Advisory Panel - 11/2004
- BCBSA Medical Policy Reference Manual [Electronic]. 8.01.27, 12/14/05
- Specialty Matched Consultant Advisory Panel - 3/2006
- BCBSA Medical Policy Reference Manual [Electronic]. 8.01.27, 12/13/07
- Specialty Matched Consultant Advisory Panel - 3/2008

Policy Implementation/Update Information

- 1/01 Specialty Matched Consultant Advisory Group.
- 4/01 Original policy issued.
- 2/03 Specialty Matched Consultant Advisory Panel meeting 11/2002 and 12/2002. Revised policy under "when it is covered" to clarify that services may be covered for members participating in a clinical trial. Removed specific criteria from "when it is covered" and "when it is not covered" sections. Term "refractory" removed from the Medical Term Definitions. Codes 86812-86822

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removed; codes 38231 and 86915 deleted and codes 38242, 38205 and 38206 added to the Billing/Coding section. System coding changes.

- 1/04 Benefits Application and Billing/Coding sections updated for consistency.
- 2/04 Individual CPT codes listed for CPT code ranges 38240-38242 under Billing/Coding section.
- 7/29/04 HCPCS code S2150 added to Billing/Coding section.
- 12/9/04 Specialty Matched Consultant Advisory Panel review 11/29/04. No changes to criteria. Revised Description of Procedure or Service section. Added rationale to Policy Guidelines section. Added policy number to Policy Key Words section. "Hematopoietic" and "Opportunistic" added to Definitions. References added.
- 4/10/06 Specialty Matched Consultant Advisory Panel meeting 3/15/2006. No changes to policy. References added.
- 6/2/08 Specialty Matched Consultant Advisory Panel meeting 3/17/2008. No changes to policy. Format changes for consistency. Policy status changed to "Active policy, no longer scheduled for routine review." References added.

Medical policy is not an authorization, certification, explanation of benefits or a contract. Benefits and eligibility are determined before medical guidelines and payment guidelines are applied. Benefits are determined by the group contract and subscriber certificate that is in effect at the time services are rendered. This document is solely provided for informational purposes only and is based on research of current medical literature and review of common medical practices in the treatment and diagnosis of disease. Medical practices and knowledge are constantly changing and BCBSNC reserves the right to review and revise its medical policies periodically.